

ANNUAL WATER QUALITY REPORT

Water testing performed in 2005

Proudly Presented By:
LONG BEACH
WATER DEPARTMENT



The Long Beach Water Department

Since its formation in 1911, the Long Beach Water Department (LBWD) has been delivering a safe and dependable water supply to the residents and businesses within the City of Long Beach (City). Currently, LBWD serves a total population of 491,564 through 902 miles of pipelines. This water is tested on a routine basis for microbiological as well as chemical quality.

During 2005, the staff of skilled water scientists, engineers, and technicians performed 48,910 tests to analyze for more than 140 drinking water contaminants to ensure that the water quality meets or better all Federal and state standards. We are pleased to inform you that no constituent was detected over the enforceable limit that the California Department of Health Services (CDHS) has set.

If you have any questions about your water quality or this report, please call the LBWD at (562) 570-2491 (TDD 570-2499) Monday through Friday between 8 a.m. and 4:30 p.m. This information is available in an alternative format by request to Melissa Keyes at (562) 570-2309, or write to: Long Beach Water Department, 1800 E. Wardlow Road, Long Beach, CA 90807



Community Participation

The Long Beach Water Department Board of Water Commissioners meets the first and third Thursday of each month at 9:15 am at our Administration Building. Please feel free to participate in these meetings. For further information, please call (562) 570-2300.

Contaminants Present in Source Water Prior To Treatment May Include:

Biological contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, and feedlots.

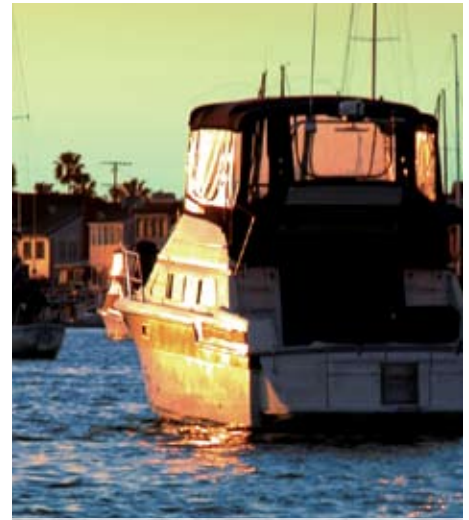
Inorganic chemicals, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources, such as agriculture, storm water runoff, and residential uses.

Organic chemicals, such as synthetic and volatile organics, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

Radioactive materials, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, CDHS prescribes regulations limiting the amount of specific contaminants in water provided by public water systems. The Long Beach Water Department takes these regulations very seriously, and in all instances treat our water to comply or be better than CDHS' regulation. CDHS' Food and Drug Branch regulations establish limits for contaminants in bottled water which must provide the same protection for public health.



This brochure is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Federal and state standards. We are committed to providing you with information because informed customers are our best allies

របាយការណ៍នេះមានព័ត៌មានសំខាន់ៗអំពីទឹកបរិភោគ ។ សូមបកប្រែឬពិគ្រោះជាមួយអ្នកដែលមើលរាយការណ៍នេះ ។

Este documento contiene información sobre la calidad del agua potable. Para su información, le aconsejamos que acuda a alguien que la pueda ayudar a comprender o a traducir el informe.

這份報告含有非常重要有關您喝的水的資料 請找懂得這份報告的人翻譯或解釋給您聽

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

Other Contaminants of Public Interest

Lead

Lead is a well-known water quality issue that has resurfaced in the news recently due to high concentrations of this contaminant reported in the drinking water serving certain utilities. Lead in the drinking water can be derived from many sources, but is mostly commonly found in systems that contain lead in the distribution system, such as lead service lines, or in the lead-containing plumbing fixtures found in consumers' households. LBWD does not use this type of service line in the distribution system.

In 1991, the USEPA instituted the Lead and Copper Monitoring Rule in an effort to limit lead in the drinking water. As part of this rule, an Action Level for lead was set at a level of 15 parts per billion (ppb). This rule is unique in that the samples are collected from the customers' tap, not within the system where the majority of the water quality monitoring usually takes place. If the requirement is not met, then the utility must institute a technology that controls the level of lead and copper reaching the consumer, most commonly through a practice known as "corrosion control."

LBWD has conducted several rounds of lead and copper monitoring since 1992, and the most current sampling occurred in 2004. The latest results show that the 90th percentile value for lead is less than 5 ppb (Action Level of 15 ppb), while the copper concentration is 207 ppb (AL is 1,300 ppb).

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. The risk of the microorganisms being in LBWD's water supply is extremely low. Groundwater, which makes up 47 percent of LBWD's potable water supply, is free of these organisms because of natural filtration through the soil. With respect to imported surface water supplies, MWD has found *Cryptosporidium* levels in the untreated surface water supplies to be 100 to 1,000 times lower than those reported in other parts of the country. Additionally, MWD has initiated an extensive effort to prevent *Cryptosporidium* and other microorganisms from reaching its treated water.

While the general public is not at risk from *Cryptosporidium*, immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers, and may choose to boil their water for one minute before consumption. USEPA or Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Disinfection Byproducts

The Stage 1 Disinfectants/Disinfection Byproducts (D/DBP) Rule became effective as of January 2002. DBPs, including total trihalomethanes (TTHM) and haloacetic acids (HAA5), are byproducts of the disinfection process and suspected human carcinogens. Some people consuming water containing TTHM in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer. To lower the risk from ingesting water containing DBPs, the USEPA lowered the TTHM level from 100 ppb to 80 ppb, and also regulated another class of DBPs known as HAA5 at 60 ppb.

Regulations require that these disinfection byproducts be reported as running annual averages to CDHS. The running annual average is obtained by averaging the present quarter's data together with the data obtained from the three previous quarters. LBWD's 2005 TTHM values in the distribution system ranged from 30 to 76 ppb, and the highest running annual average was 52 ppb, or well below the new MCL of 80 ppb. LBWD's 2005 distribution system HAA5 concentrations ranged from 9 to 31 ppb, and the highest running annual average was 20 ppb, also well below the MCL of 60 ppb.

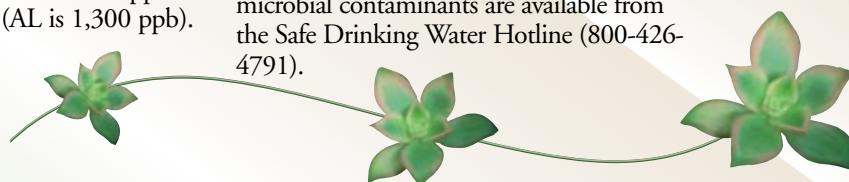
Perchlorate

Perchlorate is an inorganic chemical used in the manufacturing of rocket fuels and explosives. At high concentrations in drinking water, it can interfere with the thyroid's gland ability to produce hormones necessary for normal growth and development. Perchlorate was first detected in drinking water wells in northern California in 1997 and was later detected in many water wells throughout the state as well as in the Colorado River. The source of contamination of the Colorado River has been determined to be an industrial site in Nevada. Colorado River water is an important source of drinking water for southern California and much of the water that Long Beach purchases from MWD comes from this source.

MWD initiated voluntary monitoring for perchlorate in 1997. Levels found in the Colorado River supply have ranged between 4 and 9 ppb. No perchlorate has been detected in MWD's State Project water, or in LBWD's wells. Since 1997, the Nevada EPA has taken significant steps to mitigate the leaching of perchlorate into the river, and as a result, levels in MWD's water have decreased in the last year and will decrease further in the next few years.

While California's Department of Health Services (CDHS) has not yet issued a MCL for perchlorate, a provisional Action Level (now Notification Level) of 18 ppb was issued in 1998, which was revised to a level of 4 ppb in 2002, followed by another revision in 2004 to a level of 6 ppb. Currently, even the best laboratories can detect perchlorate reliably only to a level of 4 ppb.

This means that many customers in southern California and in Long Beach may, at times, receive water from MWD's Colorado River supply at or above the advisory level. In 2005, however, no perchlorate was detected in the water serving LBWD's service area. Because the regulatory issues surrounding perchlorate is still evolving, the LBWD is watching this situation closely and is assured that sufficient action is underway to remove the source of contamination to the Colorado River. It will take some time though, and in the interim, we do not think this should cause customers undue concern. We will post new information to our website at www.lbwater.org as new information becomes available.



Source of Drinking Water

Approximately 47-percent of the potable water serving the City is supplied by **groundwater**, and the remaining 53-percent is through purchased imported **surface water**. The sources of drinking water (for both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As the water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

LBWD purchases treated surface water from the Metropolitan Water District of Southern California (MWD), and treats groundwater pumped from 30 wells around the Long Beach area at our Groundwater Treatment Plant. Both the purchased surface water and the treated groundwater better Federal and State water quality standards. The Federal regulations are set by the U.S. Environmental Protection Agency (USEPA) and the State standards are set by the California Department of Health Services (CDHS).

Two major aqueducts supply the surface waters feeding MWD's five regional treatment plants. Colorado River water, which has a higher mineral content of the two supplies, is brought into Southern California through the 242-mile long Colorado River Aqueduct. This aqueduct, constructed and operated by MWD, originates at Lake Havasu and terminates in Southern California at Lake Mathews. State Project water, which contains a lower mineral content but higher organic matter content, is conveyed through the California Aqueduct. This aqueduct, constructed and operated by the California Department of Water Resources, transfers water originating from Lake Oroville in Northern California through 441 miles before terminating in Southern California.

In addition to wholesaling water to LBWD, MWD is also proactive in protecting the quality of the water supplied to its service area. These efforts include watershed protection against possible contamination. Recent water quality protection activities on the Colorado River included perchlorate (see "Other Contaminants of Public Interest") and uranium mill tailings located at Moab, Utah. Rainwater seeping through the mill tailings has the potential of degrading the quality of the Colorado River. With significant efforts from MWD, its member agencies, other States, and USEPA, the group was successful in convincing the US Department of Energy (DOE) to move the tailings to a location that will not pose a threat to the Colorado River.

The groundwater treated at the LBWD Groundwater Treatment Plant originates from the San Gabriel watershed. The watershed is fed by the rain and snow melt, and flows through washes and creeks into the San Gabriel River and Whittier Narrows before percolating into the underground aquifer of the central basin area

of Los Angeles. The City of Long Beach is a part of the Central Basin service area.

As required under the 1996 Safe Drinking Water Act amendments, a source water assessment must be complete for all active drinking water sources. The goal of the source water assessment is to inventory all potential activities that may degrade the source water quality. MWD completed its source water assessment of its Colorado River and State Water Project supplies in December 2002. It was found that Colorado River supplies are most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting MWD by phone at (213) 217-6850.

The LBWD completed the required source water assessments for its active wells in April 2003. New wells that are constructed after this date must also undergo a similar assessment. To summarize, the assessment concluded that all

active wells are considered most vulnerable to the community sewer collection system. Depending on location, some wells are considered vulnerable to gas stations, dry cleaners, confirmed leaking underground fuel tanks, airport activities, and historic landfills. However, although the wells are considered vulnerable to the aforementioned activities, the LBWD performs water quality monitoring for each active well annually and have not detected any constituents that suggests contamination. Please contact the LBWD by phone at (562) 570-2300 for more details if you would like to review this document.

For hydraulic reasons, the Long Beach service area may be divided up into two main regions, the **MWD zone**, which primarily receives purchased treated surface water, and the **blended zone**, which may receive a combination of treated groundwater and purchased treated surface water. Additionally, because the price of the water that LBWD purchases from MWD is less expensive in the winter season (from October to April), the blended zone may receive more surface water than groundwater during this time. Between May to September, defined as summer operations, we treat and distribute more of the local

groundwater to the blended zone than purchase treated surface water in order to keep the rates to our consumers low. For this reason, residents living in different areas of Long Beach may receive different blends of water throughout the year. Regardless of the area in Long Beach that you work or live in, LBWD's goal is to provide water meeting or bettering all water quality regulations to our consumers at the most reasonable cost. The graphs on this page show the areas that may be affected by the change in the water blend.

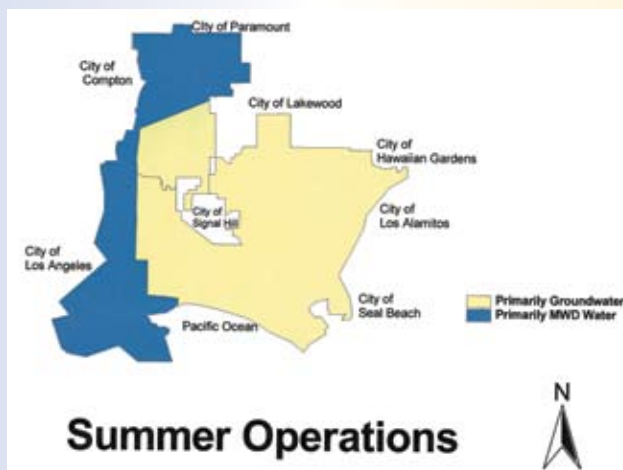


Table Definitions

CU: Color units

Federal Regulatory Action Level (AL):

The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

gpg: Grains per gallon (17.1 mg/L)

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (2nd MCL) are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal

(MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Limit

(MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Limit Goal

(MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the U.S. Environmental Protection Agency.

NA: No data available

ND: Non-detected

Notification Level (NL): The concentration of a contaminant which, when exceeded, triggers notification to the governing body or the public, as required. Notification levels are advisory levels and not enforceable standards, and the NL is a California-specific requirement.

NS: No standard available

NTU: Nephelometric turbidity units

pCi/L: Picocuries per liter (a measure of radiation)

ppb: Parts per billion or micrograms per liter (µg/L)

ppm: Parts per million or milligrams per liter (mg/L)

ppt: Parts per trillion or nanograms per liter (ng/L)

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

TON: Threshold odor number

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

µmhos/cm: Micromhos per centimeter (a measure of electrical conductance)

Variance and Exemption: State permission not to meet an MCL or a treatment technique under certain conditions

Sampling Results

The tables included in this brochure list all the drinking water contaminants that we detected during the 2005 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table are from the testing performed from January 1 to December 31, 2005. The State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year.

PRIMARY DRINKING WATER STANDARDS—MANDATORY HEALTH-RELATED STANDARDS							
	GOALS		REGULATORY LEVELS				TYPICAL SOURCES OF CONTAMINATION
PARAMETER	MCLG	PHG	MCL	2nd MCL	NL	VIOLATION	
Clarity							
Turbidity (NTU)	NS	NS	TT	5	NS	No	Soil runoff
Microbiological (% Positive)							
Coliform Bacteria	0	NS	5%	NS	NS	No	Naturally present in the environment
Inorganic Chemicals							
Aluminum (ppm)	NS	0.6	1	0.2	NS	No	Erosion of natural deposits, added during water treatment
Copper (ppm) ¹	NS	0.17	NS	NS	NS	No	Corrosion of plumbing, erosion of natural deposits
Fluoride (ppm)	NS	1	2	2	NS	No	Erosion of natural deposits, supplemental additive
Lead (ppb) ¹	NS	2	NS	NS	NS	No	Corrosion of plumbing, erosion of natural deposits
Disinfection Byproducts and Maximum Residual Disinfectants							
Haloacetic acids (HAA5) (ppb)	NS	NS	60	NS	NS	No	Byproduct of drinking water chlorination
Trihalomethanes (TTHM) (ppb)	NS	NS	80	NS	NS	No	Byproduct of drinking water chlorination
Chloramines (ppm)	MRDLG =4.0 (as Cl ₂)	NS	MRDL =4.0 (as Cl ₂)	NS	NS	No	Drinking water disinfectant added for treatment
State Regulated Contaminants with No MCLs, “Unregulated Contaminants”							
Boron (ppm)	NS	NS	NS	NS	1	No	Naturally present in the environment
Vanadium (ppm)	NS	NS	NS	NS	0.05	No	Naturally present in the environment

¹ Study conducted in 2004 at consumers' taps; next sampling to take place in 2007.

PRIMARY DRINKILTH-RELATED STANDARDS								
PARAMETER	VIOLATION	MWD Zone			Blended Zone			TYPICAL SOURCES OF CONTAMINATION
		AVERAGE	MAXIMUM	RANGE	AVERAGE	MAXIMUM	RANGE	
Clarity								
Turbidity (NTU)	No	0.06	0.13	0.04–0.13	0.06	0.10	0.04–0.10	Soil runoff
Microbiological (% Positive)								
Coliform Bacteria	No	City-wide: 0.4% highest monthly, range ND–0.4%						Naturally present in the environment
Inorganic Chemicals								
Aluminum (ppm)	No	0.07	0.07	0.06–0.07	0.12	0.29	0.05–0.29	Erosion of natural deposits, added during water treatment
Copper (ppm) ¹	No	City-wide: 0.21 = 90th percentile, 0% greater than Federal AL (1.3 ppm)						Corrosion of plumbing, erosion of natural deposits
Fluoride (ppm)	No	0.82	1.10	0.23–1.10	0.92	0.88	0.77–1.10	Erosion of natural deposits, supplemental additive
Lead (ppb) ¹	No	City-wide: <5 = 90th percentile, 0% greater than Federal AL (15 ppb)						Corrosion of plumbing, erosion of natural deposits
Disinfection Byproducts and Maximum Residual Disinfectants								
Haloacetic acids (HAA5) (ppb)	No	City-wide: 20 ppb highest running annual average, range 9–31 ppb						Byproduct of drinking water chlorination
Trihalomethanes (TTHM) (ppb)	No	City-wide: 52 ppb highest running annual average, range 30–76 ppb						Byproduct of drinking water chlorination
Chloramines (ppm)	No	City-wide: 2.29 ppm highest running annual average, range 0.29–2.88 ppm						Drinking water disinfectant added for treatment
State Regulated Contaminants with No MCLs, “Unregulated Contaminants”								
Boron (ppm)	No	0.16	0.16	0.16	0.14	0.14	0.14	Naturally present in the environment
Vanadium (ppm)	No	0.003	0.003	0.003	<0.003	<0.003	<0.003	Naturally present in the environment

SECONDARY DRINKING WATER STANDARDS—AESTHETIC STANDARDS

PARAMETER	2nd MCL	VIOLATION	MWD Zone			Blended Zone			TYPICAL SOURCES OF CONTAMINATION
			AVERAGE	MAXIMUM	RANGE	AVERAGE	MAXIMUM	RANGE	
Chloride (ppm)	250	No	72	84	58–84	44	54	33–54	Runoff/leaching from natural deposits; seawater influence
Color (CU)	15	No	1	3	ND–3	1	4	ND–4	Naturally-occurring organic materials
Specific conductance (µmhos/cm)	900	No	732	920	576–920	504	670	447–670	Substances that form ions when dissolved in water; seawater influence
Odor (TON)	3	No	3	3	3	3	3	3	Naturally-occurring organic chemicals
Sulfate (ppm)	250	No	154	214	104–214	61	93	40–93	Runoff/leaching from natural deposits; industrial wastes
Total dissolved solids (ppm)	500	No	451	580	338–580	287	358	236–358	Runoff/leaching from natural deposits

ADDITIONAL CONSTITUENTS OF INTEREST

PARAMETER	MWD Zone			Blended Zone		
	AVERAGE	MAXIMUM	RANGE	AVERAGE	MAXIMUM	RANGE
Alkalinity (ppm)	90	102	80–102	110	131	93–131
Calcium (ppm)	43	54	35–54	31	38	25–38
Hardness (ppm)	187	230	156–230	118	158	83–158
Hardness (gpg)	10.9	13.4	4.1–13.4	6.9	9.2	4.9–9.2
Magnesium (ppm)	19	23	16–23	9.9	15	5.0–15
pH	8.0	8.4	7.7–8.4	8.2	8.5	7.9–8.5
Potassium (ppm)	3.7	4.2	3.1–4.2	2.5	3.1	1.9–3.1
Silica (ppm)	10.8	13.2	8.6–13.2	14.4	19.5	12.6–19.5
Sodium (ppm)	78	94	62–94	57	72	47–72

